

Child's Play

Children's Healthcare Atlanta teams with systems integrator Logicalis Group to defeat disaster

Things were simpler in ancient times. To prepare for an emergency—say a flood of biblical proportions—you needed only to build an ark, grab two of every living thing in sight, set sail, then wait for the floodwaters to recede. Needless to say, this sort of disaster recovery strategy is no longer effective.

“Yes, we need to provide disaster recovery and business continuity for any and every eventuality, but like everyone else we need to be price conscious,” says

By Jim Carr

Jim Atwood, director of IT architecture and solution design for Children's Healthcare of Atlanta, Georgia. “We can't just deploy two of everything.”

Atwood manages IT for two main pediatric hospital facilities, along with an additional two dozen satellite locations across metropolitan Atlanta.

Recently, Atwood and his IT organization were faced with the prospect of implementing a new electronic medical records system, which required that they ensure the system was simultaneously secure, available, and—in the event of an unplanned system outage—quickly recoverable.

“The medical staff said they could provide quality care in an emergency using a paper-based system, but only for about four hours,” Atwood explains.



Art Vinson, Logicalis Account Executive, and Jim Atwood, Director of IT Architecture and Solution Design, Children's Healthcare of Atlanta

The four-hour response metric evolved from the industry standard in terms of turnaround time promised by IT vendors who provide replacement equipment. During these first few critical hours, it falls to Atwood and Children's IT staff to troubleshoot and source problems that are not immediately apparent.

Because there were many business continuity options to explore, Children's sought expert guidance. The organization had previously enjoyed good results when working with the local office of systems integrator Logicalis, so they turned to them again.

Logicalis account executive Art Vinson offered Children's two options, one of which was hardware dependent, the other software focused.

The hospital settled on the software-centric solution based on

NetBackup, Storage Foundation, Volume Replicator, and Cluster Server from Symantec.

The advantages—and the savings—were clear: Symantec's products were heterogeneous and worked with all of Children's existing hardware and operating systems, from AIX to Linux to UNIX.

This heterogeneity meant Atwood wasn't tied to a specific piece of proprietary hardware for the new storage array; he could choose whichever one best fit Children's needs.

Atwood says he can now use virtually any kind of hard drive—from ATA to Serial ATA to SCSI—within the backup array. “I can make an educated decision about what to put in my disaster recovery system,” he explains. “I didn't have to buy another storage array just for disaster recovery.”

Instead, he deployed a lower-cost storage system in Egleston in north-east Atlanta. "Now, if we decide to put in Microsoft Windows servers and drives on this system, we're all set. Cluster Server works with Windows, too, so I don't have to buy another one."

There were no additional investments in training on new equipment and no expensive storage arrays required. The lower-end systems available in the marketplace worked just fine, which meant more than US\$1.4 million was saved before a single server had been ordered.

On Vinson's recommendation, Atwood and his IT team leveraged the fact that the healthcare provider's two facilities were located more than 10 miles apart in the metropolitan area. This meant that Children's didn't need to outsource data backup to a third party, which added an additional level of cost savings. By using a synchronous optical networking (SONET) fiber-optic ring, Children's could connect the two facilities. Turning on support for the 802.1x security protocol then meant that data traveling between the two facilities could be encrypted and secured.

By adding one HP server to its Egleston campus, Children's could effect two virtualized HP-UX environments on its midrange production system, with both virtualized servers connected to the hospital's SAN array.

"If the motherboard fails in one virtual machine, the system automatically fails over to the second machine using Cluster Server," Atwood says.

In addition to the newly deployed EpicCare patient records system, the production system also supports the institution's Lawson financial package, used in accounts payable, payroll, and human resources applications.

The new server now serves two purposes: first, it is a test bed (when not standing in for the production server at the other campus, Scottish Rite), and second, it is the backup system should the main server crash.

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Jim Atwood, Director of IT Architecture and Solution Design, Children's Healthcare of Atlanta

Atwood reports that Children's IT staff "worked with department champions to develop downtime plans" that rely on paper forms in the event of an unplanned outage. In radiology, for example, a radiologist will "manually select a form, take the patient to the radiology area, take the electronic X-ray, and make a diagnosis."

Children's electronic digital medical image archival system is tied into the EpicCare patient records system but can operate in stand-alone mode when the production server and SAN are down. Then, when the system is back up, department secretaries will enter the form into the records system.

Should the SONET network itself fail (leaving the two main hospitals unconnected), Children's comprehensive disaster recovery plan specifies not only what to do, but also what not to do.

For example, under no circumstances should the backup system

be put online to handle medical records only at the Egleston hospital.

"It would create more of a disaster with our hospitals using different systems and the databases getting out of synch," Atwood says. "Synchronizing them would be virtually impossible."

Planning for a disaster in the types of complex IT environments found in healthcare organizations today isn't as simple as gathering up the beasts two-by-two. But, by taking the time to put in adequate controls while deploying sophisticated data-management tools—and enlisting a little expert help—Children's IT professionals have developed a cost-effective business continuity solution that can weather just about any storm. ■

Jim Carr's work has appeared in InfoWorld, Network, PC Today, and VARBusiness.

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"This may take a while. We're still looking for that needle email."